

WHAT IS CLAIMED IS:

1. An image sensor controller for controlling an image sensor having a light receiving section and a transfer section that receives image data from the light receiving section, the image sensor controller comprising:

 a drive controller configured to supply to the transfer section, which shifts and transfers received image data, a shift/transfer clock for shifting and transferring the image data,

 wherein the light receiving section comprises a dummy pixel region and an effective pixel region, and

 wherein the shift/transfer clock supplied by the drive controller to the transfer section has a clock frequency that is higher in a dummy pixel output period during which image data obtained from the dummy pixel region is outputted from the transfer section than in an effective pixel output period during which image data obtained from the effective pixel region is outputted from the transfer section.

2. An image sensor controller for controlling an image sensor having a light receiving section and a transfer section that receives image data from the light receiving section, the image sensor controller comprising:

 a drive controller configured to supply to the transfer section, which shifts and transfers received image data, a shift/transfer clock for shifting and transferring the image data,

 wherein a reading pixel region in which image data is read and a non-reading pixel region in which image data is not read are defined, and

 wherein the shift/transfer clock supplied by the drive controller to the transfer section has a clock frequency that is higher in a non-reading pixel output period during which image data obtained from the non-reading pixel region is outputted from the transfer section than in a reading pixel output period during which image data obtained from the reading pixel region is outputted from the transfer section.

3. An image sensor controller for controlling an image sensor having a light receiving section and a transfer section that receives image data from the light receiving section, the image sensor controller comprising:

a drive controller configured to supply to the transfer section, which shifts and transfers received image data, a shift/transfer clock for shifting and transferring the image data,

wherein a reading pixel region in which image data is read, a non-reading pixel region in which image data is not read, and a dummy pixel region are defined, and

wherein the shift/transfer clock supplied by the drive controller to the transfer section has a clock frequency that is highest in a dummy pixel output period during which image data obtained from the dummy pixel region is outputted from the transfer section, next highest in a non-reading pixel output period during which image data obtained from the non-reading pixel region is outputted from the transfer section, and lowest in a reading pixel output period during which image data obtained from the reading pixel region is outputted from the transfer section.

4. An image sensor controller according to claim 1, wherein the drive controller includes a pattern selector configured to select, from among a plurality of clock patterns for setting the shift/transfer clock, a specific clock pattern for each period during which image data is outputted from the transfer section of the image sensor.

5. An image sensor controller according to claim 2, wherein the drive controller includes a pattern selector configured to select, from among a plurality of clock patterns for setting the shift/transfer clock, a specific clock pattern for each period during which image data is outputted from the transfer section of the image sensor.

6. An image sensor controller according to claim 3, wherein the drive controller includes a pattern selector configured to select, from among a

plurality of clock patterns for setting the shift/transfer clock, a specific clock pattern for each period during which image data is outputted from the transfer section of the image sensor.

7. An image sensor controller according to claim 4, wherein

the drive controller includes a memory configured to store the plurality of clock patterns, and

the pattern selector selects from among the plurality of clock patterns stored in the memory a specific clock pattern for each image data output period based on pattern switch timing setting information, and supplies the shift/transfer clock to the transfer section of the image sensor based on the clock pattern selected.

8. An image sensor controller according to claim 3, further comprising:

an image processing controller configured to (i) supply an A/D conversion/transfer clock to an A/D converter that converts analog image data sent from the transfer section of the image sensor to digital image data and (ii) receive the digital image data outputted from the A/D converter based on the supplied A/D conversion/transfer clock,

wherein the image processing controller invalidates image data obtained from the dummy pixel region and the non-reading pixel region received from the A/D converter.

9. An image sensor controller according to claim 3, further comprising:

an image processing controller configured to (i) supply an A/D conversion/transfer clock to an A/D converter that converts analog image data sent from the transfer section of the image sensor to digital image data and (ii) receive the digital image data outputted from the A/D converter based on the supplied A/D conversion/transfer clock,

wherein the image processing controller disables an output operation of the A/D converter during periods in which the A/D converter outputs image data obtained from the dummy pixel region and non-reading pixel region.

10. An image sensor controller according to claim 1, further comprising:

an image processing controller configured to (i) supply an A/D conversion/transfer clock to an A/D converter that converts analog image data sent from the transfer section of the image sensor to digital image data and (ii) receive the digital image data outputted from the A/D converter based on the supplied A/D conversion/transfer clock,

wherein the image processing controller supplies the A/D conversion/transfer clock at a constant clock frequency, irrespective of the changes in frequency of the shift/transfer clock.

11. An image sensor controller for controlling an image sensor having a light receiving section and a transfer section that receives image data from the light receiving section, the image sensor controller comprising:

a drive controller configured to supply to the transfer section, which shifts and transfers received image data, a shift/transfer clock for shifting and transferring the image data,

the drive controller including a pattern selector configured to select, from among a plurality of clock patterns for setting the shift/transfer clock, a specific clock pattern for each period during which image data is outputted from the transfer section of the image sensor, and

wherein the frequency of the shift/transfer clock supplied during a particular period is based on the specific clock pattern selected for that period.

12. An electronic device, comprising:

an image sensor that has a light receiving section and a transfer section that receives image data from the light receiving section;

an image sensor controller configured to control the image sensor, the image sensor controller comprising

a drive controller configured to supply to the transfer section, which shifts and transfers received image data, a shift/transfer clock for shifting and transferring the image data,

wherein the shift/transfer clock supplied by the drive controller to the transfer section has a frequency that is higher in a dummy pixel output period during which image data obtained from a dummy pixel region is outputted from the transfer section than in an effective pixel output period during which image data obtained from an effective pixel region is outputted from the transfer section.

13. An electronic device according to claim 12, further comprising:

a carriage on which the image sensor is mounted;

a drive device configured to drive the carriage in a scanning direction;

a servo controller configured to perform servo control on the drive device in accordance with servo control information read by the image sensor from a source.

14. A method for controlling an image sensor having a light receiving section and a transfer section that receives image data from the light receiving section, the method comprising:

controlling the frequency of a shift/transfer clock for shifting and transferring image data by

making the frequency of the shift/transfer clock higher in a dummy pixel output period during which image data obtained from a dummy pixel region is outputted from the transfer section than in an effective pixel output period during which image data obtained from an effective pixel region is outputted from the transfer section, and

supplying the shift/transfer clock to the transfer section which shifts and transfers received image data based on the frequency of the shift/transfer clock.

15. A method for controlling an image sensor having a light receiving section and a transfer section that receives image data from the light receiving section, the method comprising:

controlling the frequency of a shift/transfer clock for shifting and transferring image data by

making the frequency of the shift/transfer clock higher in a non-reading pixel output period during which image data obtained from a non-reading pixel region is outputted from the transfer section than in a reading pixel output period during which image data obtained from a reading pixel region is outputted from the transfer section, and

supplying the shift/transfer clock to the transfer section which shifts and transfers received image data based on the frequency of the shift/transfer clock.

16. A method for controlling an image sensor having a light receiving section and a transfer section that receives image data from the light receiving section, the method comprising:

controlling the frequency of a shift/transfer clock for shifting and transferring image data by

setting the frequency of the shift/transfer clock to a first frequency in a dummy pixel output period during which image data obtained from a dummy pixel region is outputted from the transfer section,

setting the frequency of the shift/transfer clock to a second frequency in a non-reading pixel output period during which image data obtained from a non-reading pixel region is outputted from the transfer section, and

setting the frequency of the shift/transfer clock to a third frequency in a reading pixel output period during which image data obtained from a reading pixel region is outputted from the transfer section; and

supplying the shift/transfer clock to the transfer section which shifts and transfers received image data based on the frequency of the shift/transfer clock.

17. A method according to claim 14, further comprising selecting, from among a plurality of clock patterns for setting the shift/transfer clock, a specific clock pattern for each period during which image data is outputted from the transfer section of the image sensor.

18. A method according to claim 15, further comprising selecting, from among a plurality of clock patterns for setting the shift/transfer clock, a specific clock pattern for each period during which image data is outputted from the transfer section of the image sensor.

19. A method according to claim 16, further comprising selecting, from among a plurality of clock patterns for setting the shift/transfer clock, a specific clock pattern for each period during which image data is outputted from the transfer section of the image sensor.